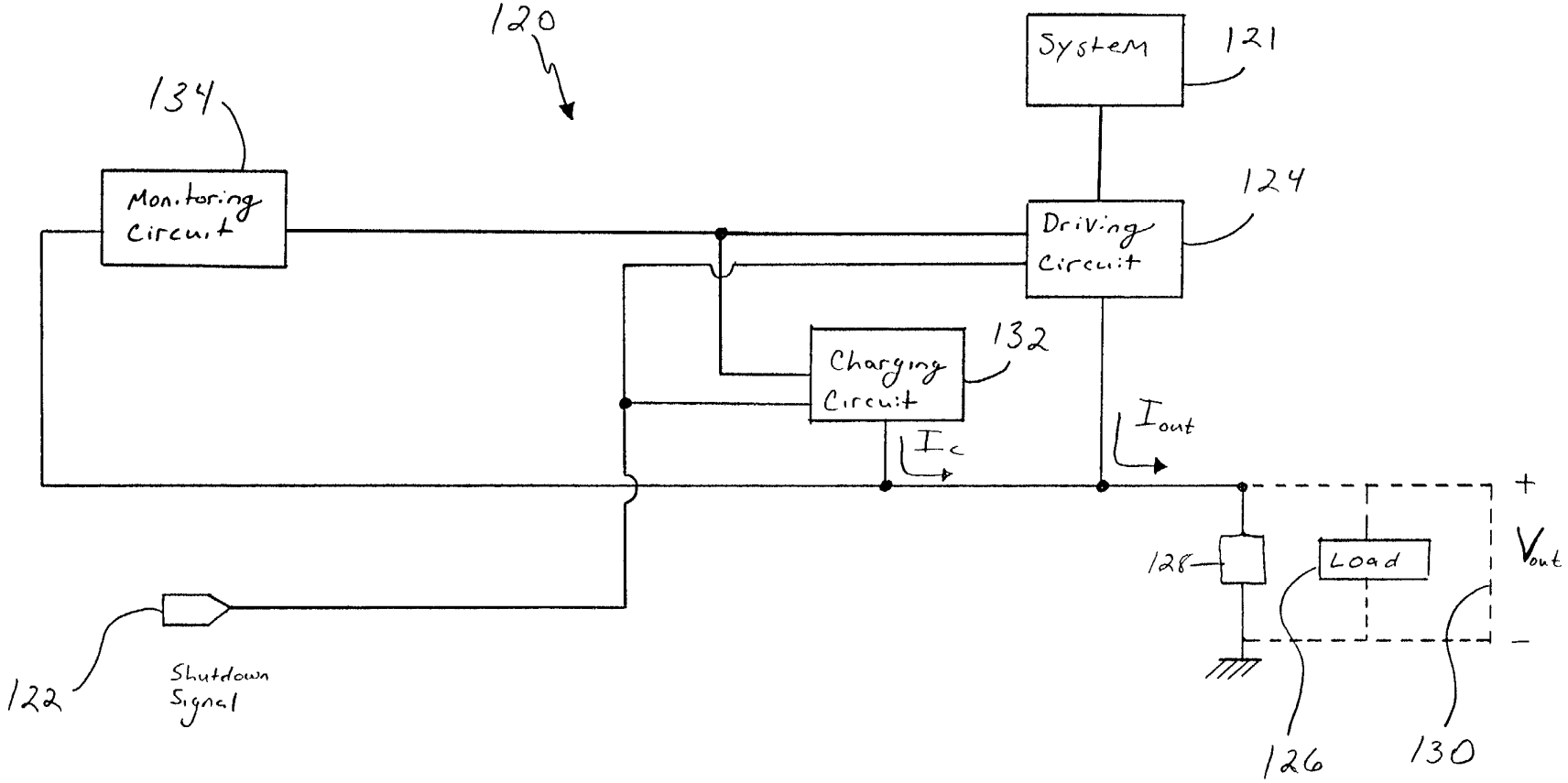
120
System
121
134
Monitoring Circuit
124
Driving Circuit
132
Charging Circuit
I_c
I_{out}
+
V_{out}
128
Load
122
Shutdown Signal
126
130

FIG. 1

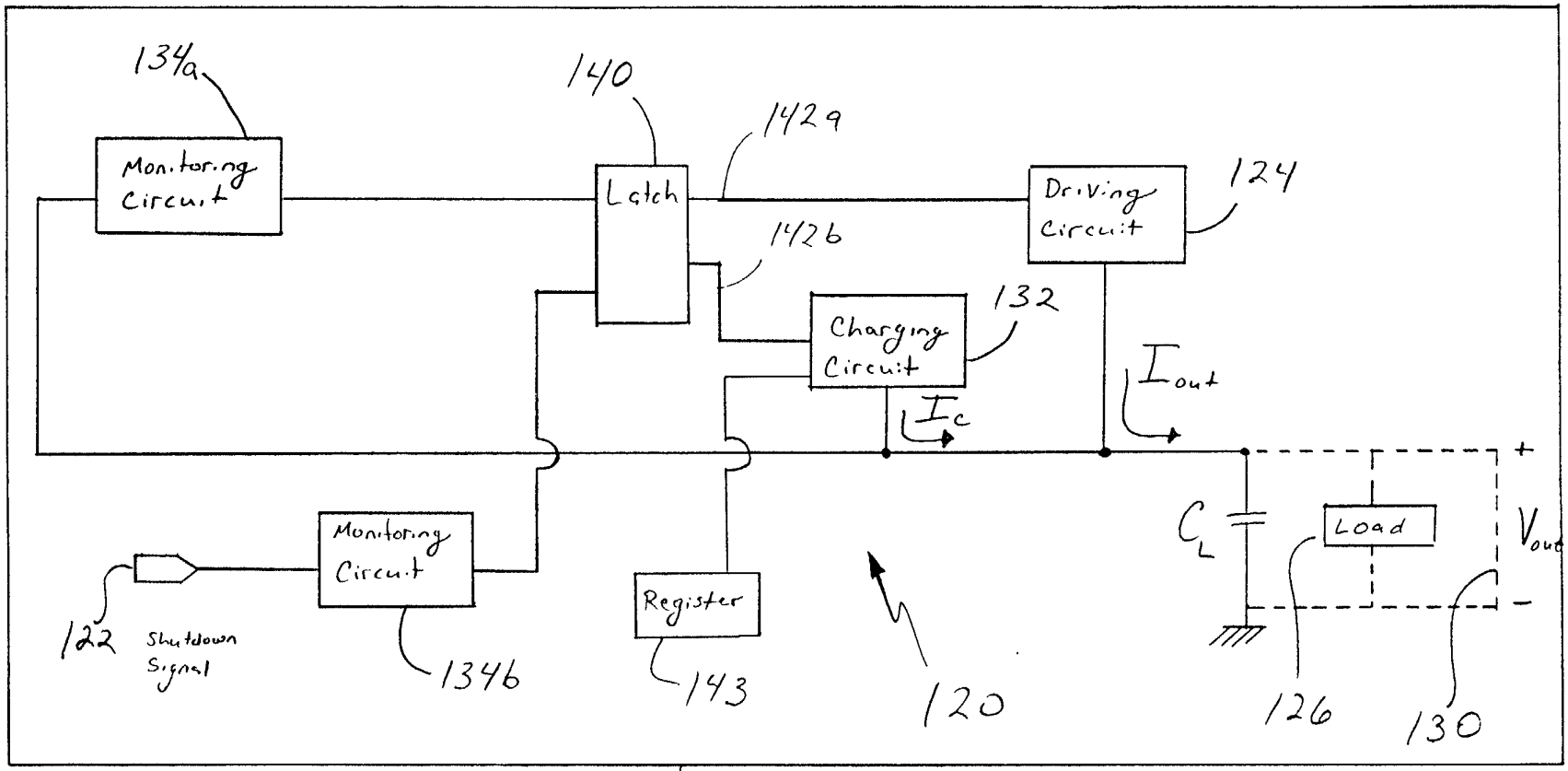
134a
Monitoring Circuit
140
Latch
142a
142b
Driving Circuit
124
Charging Circuit
132
I_{out}
I_c
Monitoring Circuit
134b
122
Shutdown Signal
Register
143
120
C_L
Load
V_{out}
+
-
126
130
121

FIG. 2

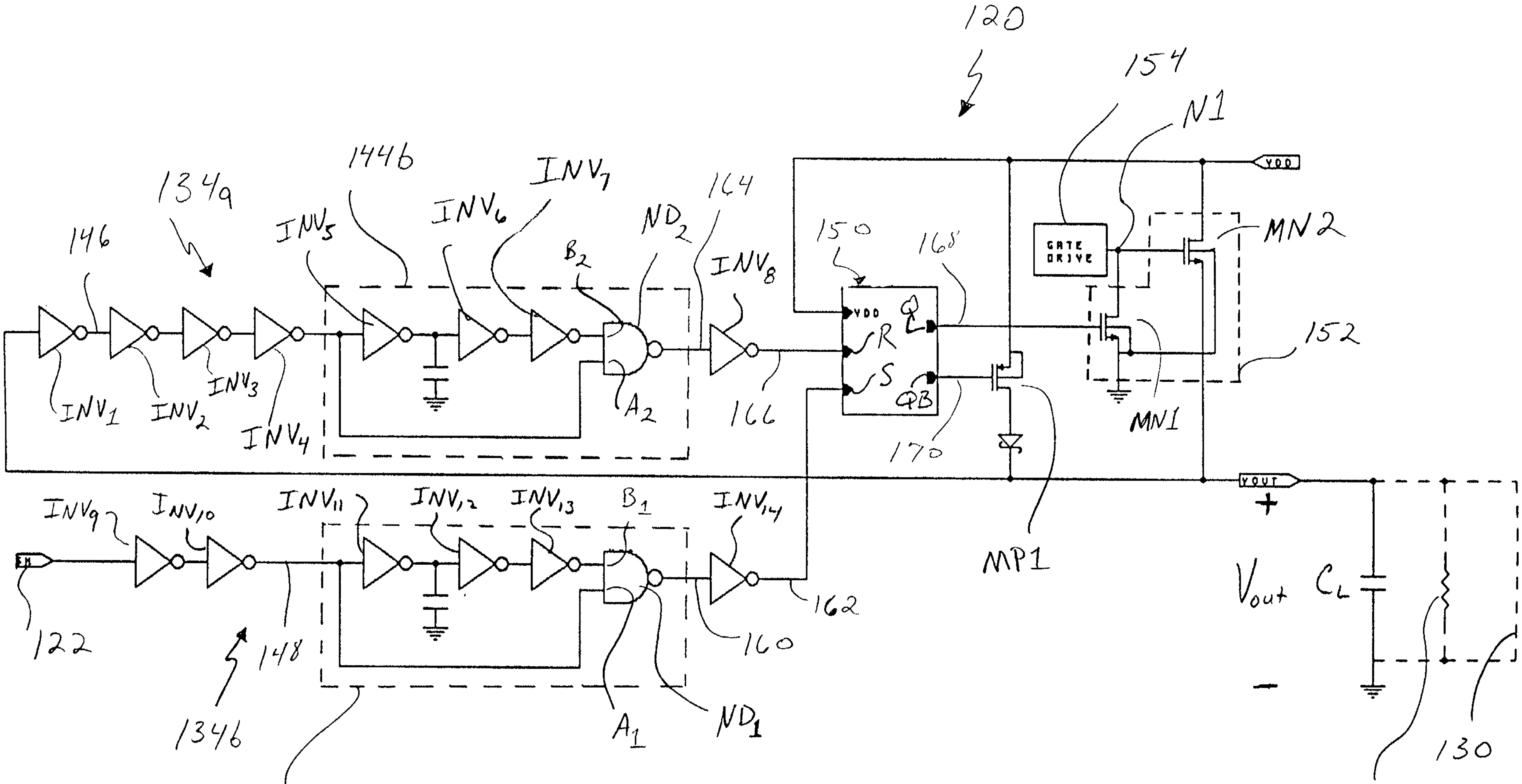
120
154
N1
MN2
152
MN1
MP1
GATE DRIVE
VDD
VOUT
IN
150
168
170
Q
QB
R
S
134a
134b
144a
144b
146
148
122
164
166
160
162
INV1
INV2
INV3
INV4
INV5
INV6
INV7
INV8
INV9
INV10
INV11
INV12
INV13
INV14
ND1
ND2
A1
A2
B1
B2
Vout
CL
+
-
126
130

FIG. 3

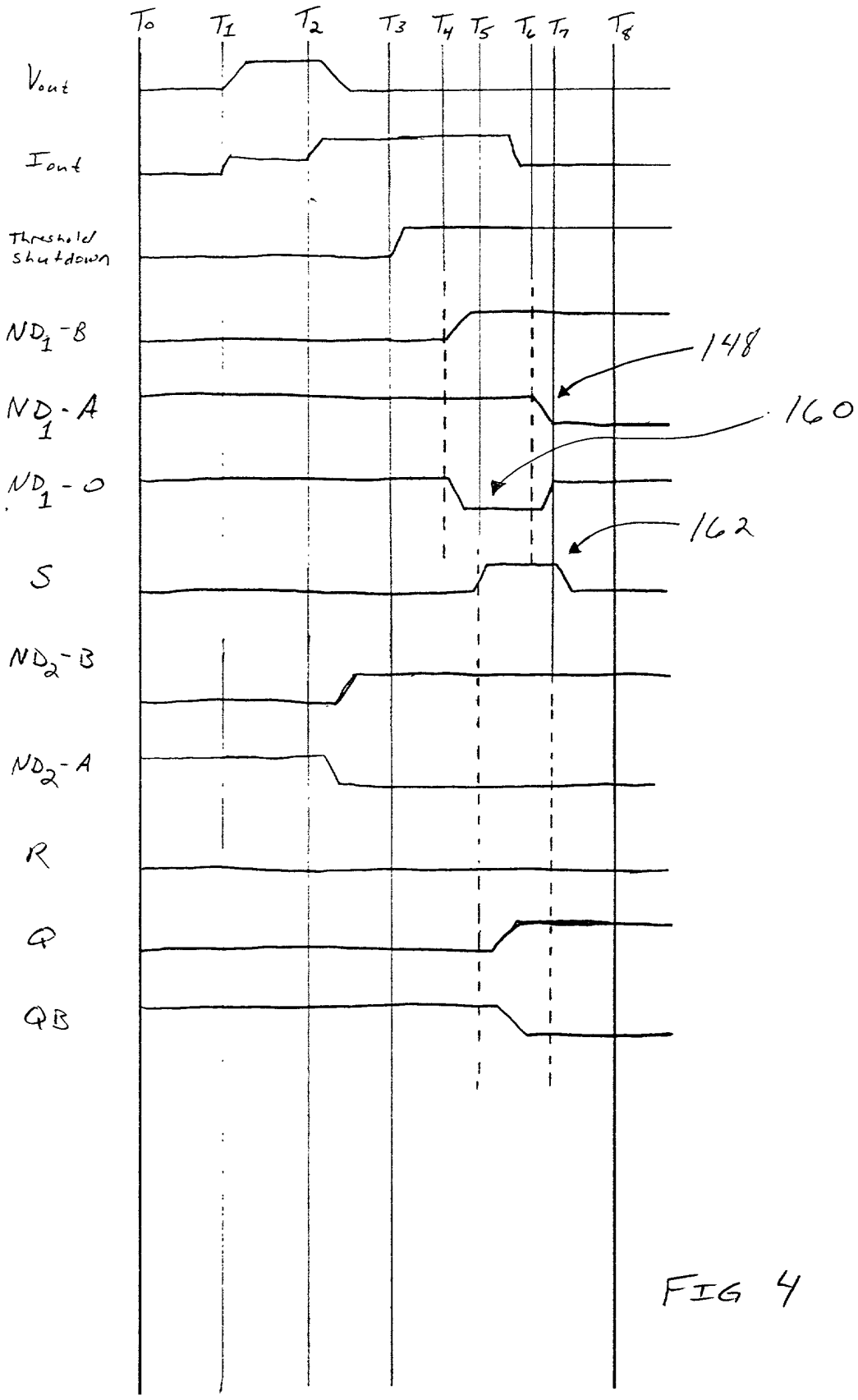
T0
T1
T2
T3
T4
T5
T6
T7
T8
Vout
Iout
Threshold shutdown
ND1-B
ND1-A
ND1-O
S
ND2-B
ND2-A
R
Q
QB
148
160
162

FIG 4

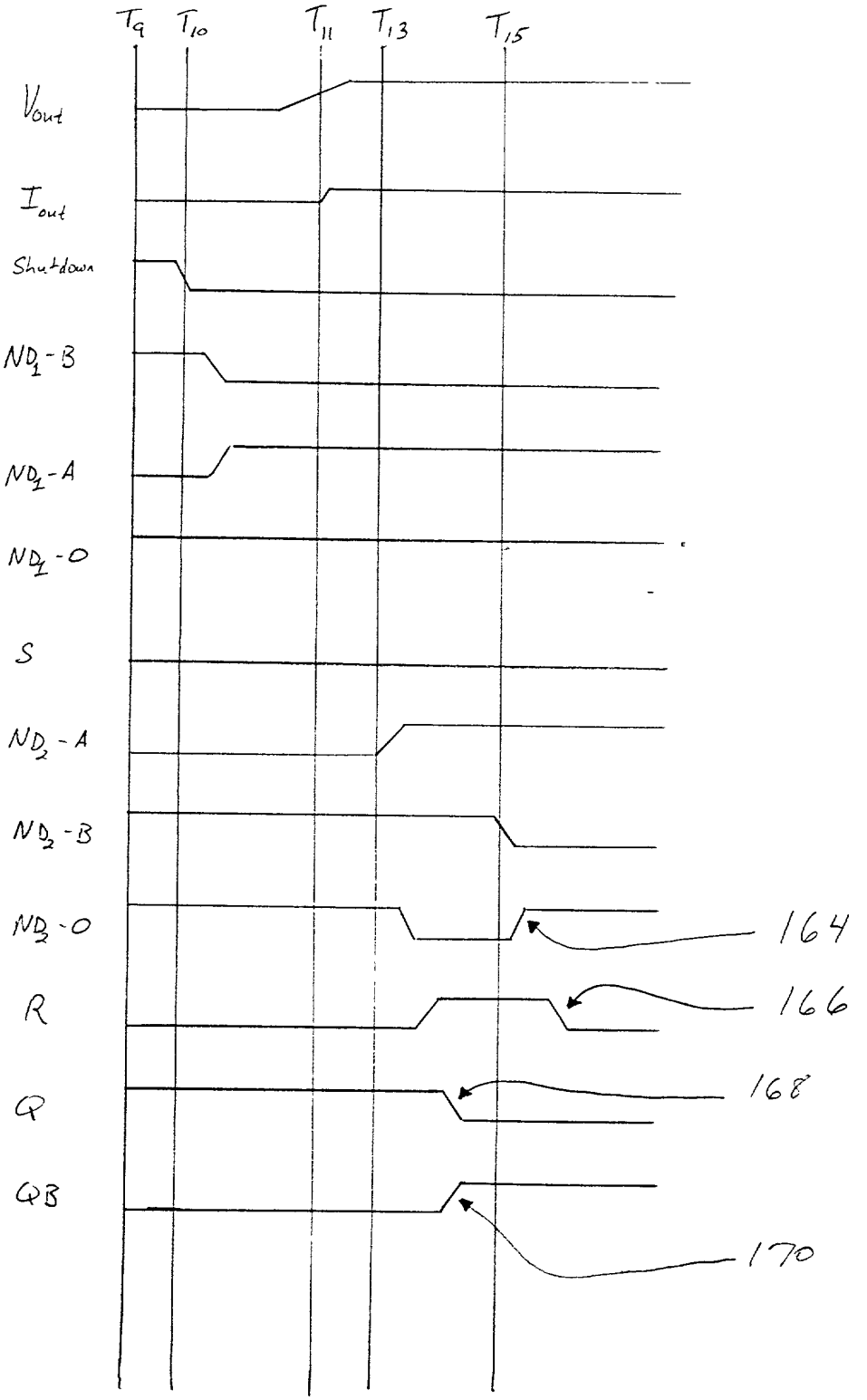
T_9
T_{10}
T_{11}
T_{13}
T_{15}
V_{out}
I_{out}
Shutdown
ND_1-B
ND_1-A
ND_1-O
S
ND_2-A
ND_2-B
ND_2-O
R
Q
QB
164
166
168
170

FIG 5

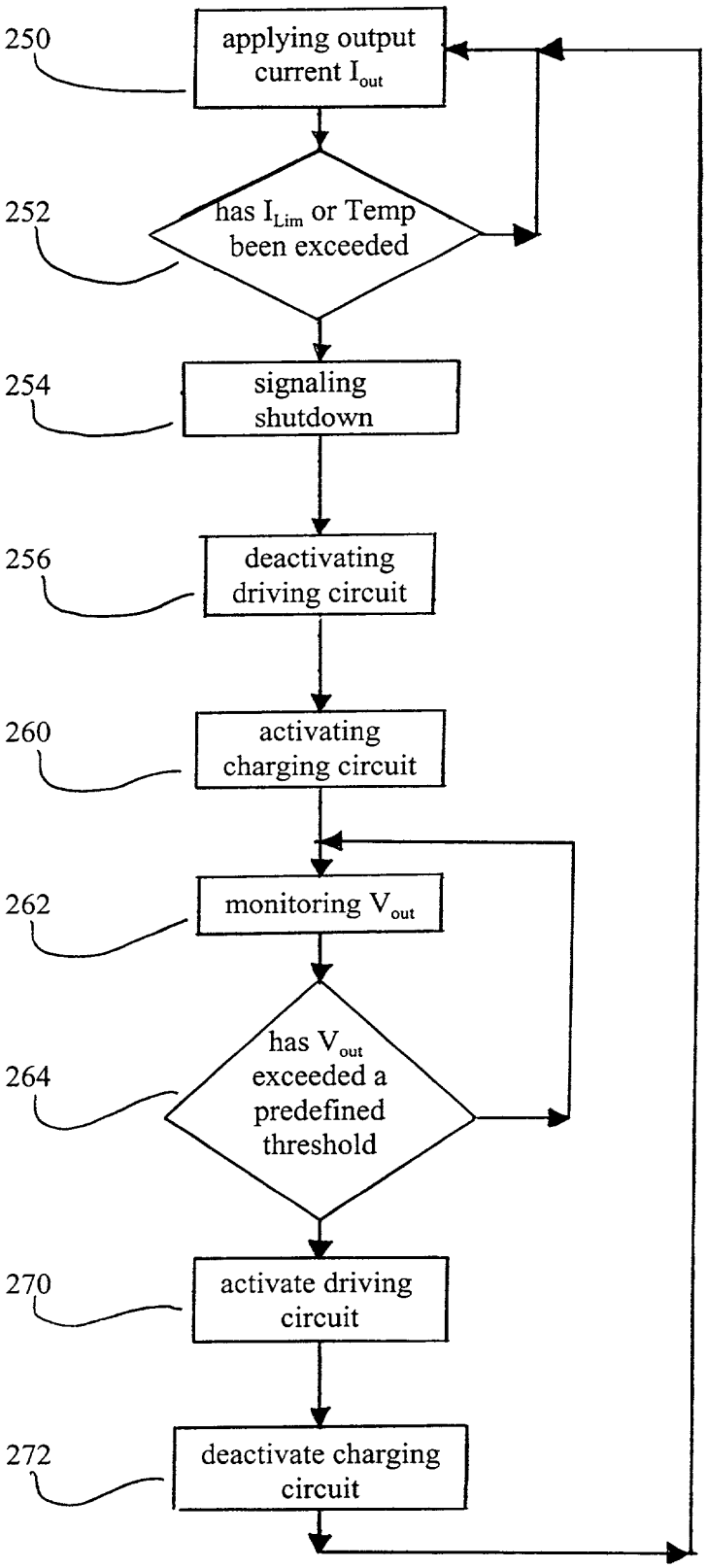
250
applying output current I_{out}
252
has I_{Lim} or Temp been exceeded
254
signaling shutdown
256
deactivating driving circuit
260
activating charging circuit
262
monitoring V_{out}
264
has V_{out} exceeded a predefined threshold
270
activate driving circuit
272
deactivate charging circuit

FIG. 6

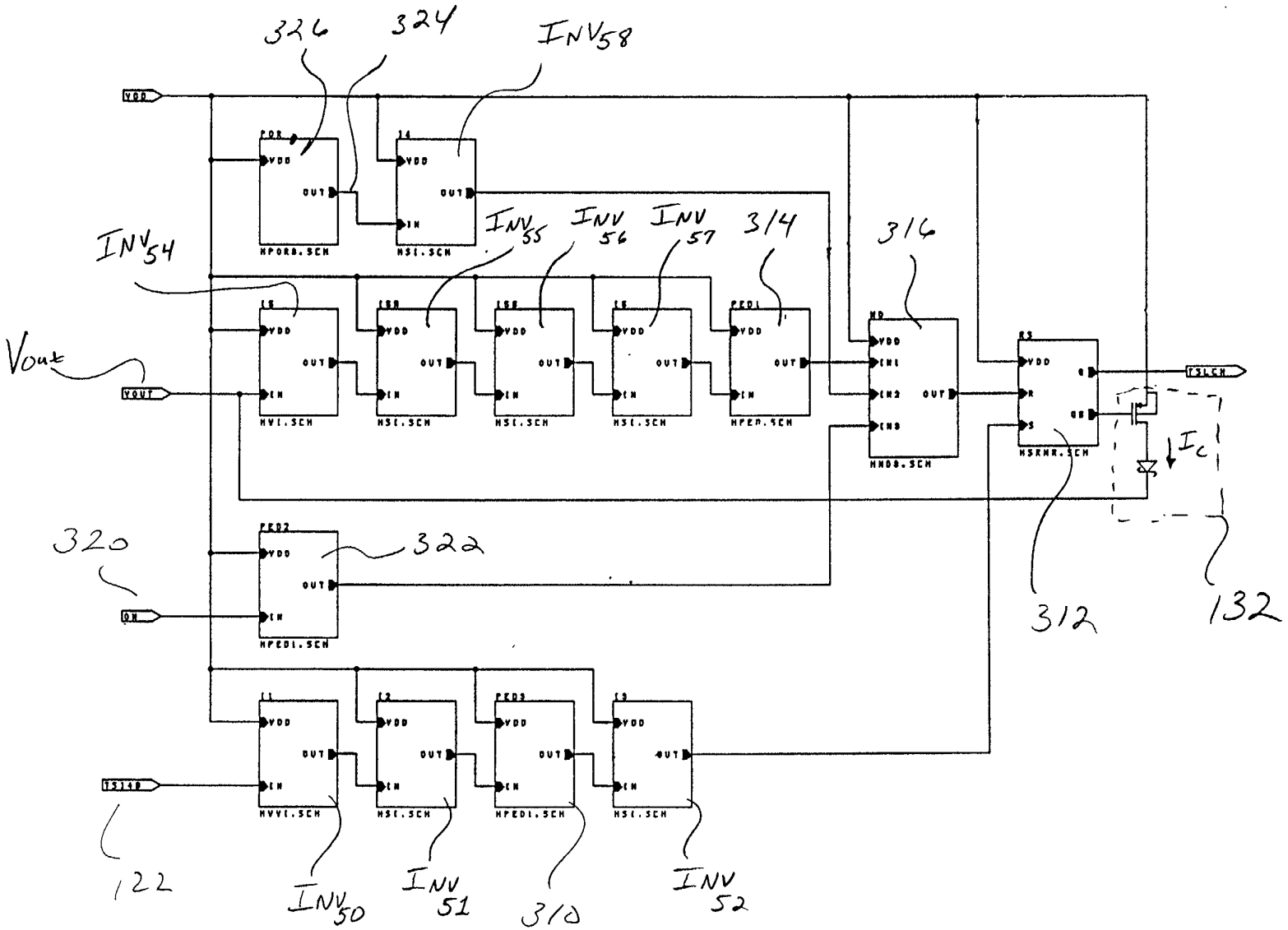
326
324
INV58
INV54
INV55
INV56
INV57
314
316
Vout
320
322
312
132
122
INV50
INV51
310
INV52
Ic

FIG. 7